

Fig. 1. Schematic diagram of methoxy mycolic acid synthase mmaA 4-mmaA 1 gene cluster of mycobacteria and location of forward A, and reverse D primers.

CTACTTCGCCAGCGTGAACTGGTTGACGTCGATGTAGCCGACCCGGAACAGCTTGGCGCAGCCGGTCA GGTATTTCATGTACCGCTCGTAGACCTCTTCGGACTGGATCGCGATGGCCTCGCTTTTGTGTTCCTGCA GCGCCTCGGCCCACAGGTCGAGGGTCCTGGCGTAATGCGGCTGCAGCGACTGGCGGCGAGTCAGCGT GAAACCCGTCTTCGCCGACTGTTCCTCAACCATTTCAATCGTCGGAGGTTGGCCCCCCGGGAAGATTTC GGTCGCGATGAACTTGAGAAAGCGGGCCAGCCACAACGTGAGCGGCAAGCCGTGGTCGACCATCTGC TGCCTGGTCAGGCCGGTGATCGTGCAGCAGCAACACGCCATCGGGCGGCAGGATTTTGTGGGCCCG GGCGAAGAAGTCGGCGTGACGATCGTGGCCGAAGTGCTCGAACGCGCCGATCGACACGATGCGGTCG ACGGGCTCGTTGAACTGCTCCCATCCCGCCAGCAACACTCGCCTGTCGCGGGGGTGTCCATCTCGTCG AACGACTTCTGCACATGGGCGGCCTGGTTCTTCGACAATGTCAGGCCGACGACGTTGACGTCATACTG CGCGATCGCGCGCATGGTGGCGCCCCAGCCGCAACCGATATCGAGCAGCGTCATGCCGGGCTGCA GACCTAGCTTGCCCAGCGCCAGGTCGATCTTGGCGATCTGGGCCTCTTCCAGCGTCATGTCCTCGCGTT CGAAATGCGCGCAGCTGTAGGTCTGGGTCGGATCCAGGAACAGCCGGAAGAAGTCGTCGGACAGGTC GTAGTGTGCCTGCACGTCCTCGAAGTGCGGCGTTAGGTCGTTGACCATgaggtgtaatgcctttccggaccctaggtggcct ttcggtgcttgcacggaacgcaccgatgcttccccctccccgcatgctcgaggcatgctatccgatacagggccgccgcactaaaccgcgatcgaatttgcccaggtcaccaggtcaccaggatcgaatttgcccaggtcaccaggtcaccaggatcgaatttgcccaggtcaccaggatcgaatttgcccaggtcaccaggatcgaatttgcccaggatcgaatttgcccaggtcaccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgcccaggatcgaatttgccagatcgaatttgccagatcgaatttgccagatcgaatttgccagatcgaatttgcaatttgccagatcgaatttgcagatcgaatttgcagatcgaatttgcagatcgaatttgcagatcgaatttgcagatcgaatttgcagatcgaatttgcagatcgaatttgcagatcgaatttgcagatcgaatttgcagatcgaatttgcagatcgaatttgcagatcgaatttgcaatttgcagatcgaatttgcaatttgcagatcgaatttgcaatttgcagatcgaatttgcagatcgaatttgcagatcgaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttgcaatttg ${\tt gggaacggatatgagcggacgagCTACTTGGTCATGGTGAACTGGGCGACGTTGATTAGGCCTCTGCGGAAGCGCT}$ CCGCGCATCCGGTCAGATAGTGCATGAAGTTGTTGTAGACCTCTTCGGACTGTACGGCGATGGCGCGT TCGCGGGCAGCCTGTAGGTTGGCGGCCCATGCATC*GAGAGTCCGTGCGTAGTG*CTGCTGCAGCAGCTGG ACATGCTCGATGGTGAAGCCCGCGGCCTGCGCATTGTCGACAATGTCGGGCTCCGATGGCAGCTCGCC GCCCGGGAAGATCGACTCCCGCAGGAATTTGAGGAATCGAAGGTCGCTCATCGTCAGCGCAATGCCCT GTTCGTGCAGCCACCTGCGGTCGTAGGTGAACAGGCTGTGCAGTAGCATCCGCCCGTCATCGGGCAGG ATGTCGTAGGAGCGTTCGAAGAACGTCAGATACCGCTCCTTTTTGAACGCGTCGAATGCCTCAAAGCT TCCGATTGCGGCCAGGCGTCTTTGCTGCGTTCATAGTGATTCCGGCTGAGCGTGAGGCCGATGACATT GACGTCGTACTTCTCCACGGCCCGAACGAGCGCCCCGCCCCACCCGCAACCCACGTCGAGTAGCGTCA TCCCGGTTCGAGGTTCAGCTTGTCCAACGCCAGATCCACCTTGGCCAGTTGCGCCTCTTCCAGCGTCA TATCGTCACGCTCGAAATAGGCGCAGGTGTAGACCCAGGTGGGATCGAGGAACAACGCGAAGAAGTC ATCCGAAATGTCGTAAGCCGACTGTGACTCTTCGTAATATGGTCTCAGCTTGGCCAT

Fig. 2. Sequence of mmaA2 and mmaA1 gene with an intergenic region of 166 base pair (shown in lower case. Location of forward A, sequence ID 1 and reverse primer D, sequence ID 2. Both primer sequences are underlined and italicized.



Fig. 3. PCR amplification of different mycobacterial genomic DNAs with primers A and D (lanes 1- 15): 1. M.avium 2. M.bovis 3. M.chelonae 4. M.fortuitum 5. M.intracellulare 6. M.kansassi 7. M.phlei 8. 100 bp DNA ladder 9. M.marinum 10. M.scrofulaceum 11.M.smegmatis 12. M.szulgai, 13. M.tuberculosis and 14. negative control. AD indicates 363 bp-amplified product.

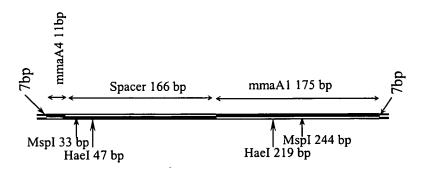


Fig. 4. Line diagram showing restriction endonuclease map of HaeI and MspI within AD.

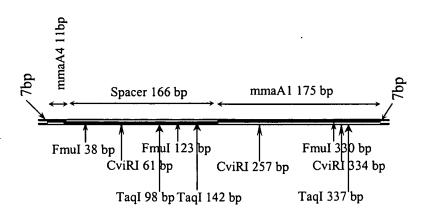


Fig. 5. Line diagram showing restriction endonuclease map of FmuI, CviRI and TaqI within AD.

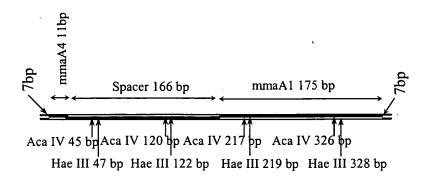


Fig. 6. Restriction map of AD showing distribution of the sites of restriction endonucleases AcaIV and HaeIII.

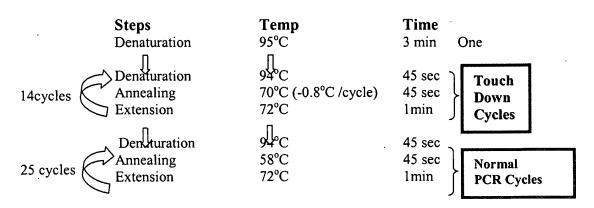


Fig. 7. Line diagram showing different steps of PCR reaction